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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,817	07/15/2003	Kyoung-Geun Lee	Q75618	5888
23373	7590	06/29/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			TRAN, THUY V	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicant No.</b> 10/618,817	<b>Applicant(s)</b> LEE ET AL.	
	<b>Examiner</b> Thuy V. Tran	<b>Art Unit</b> 2821	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on 15 July 2003.

2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) 1-10 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.

6) ☒ Claim(s) 1 and 5-10 is/are rejected.

7) ☒ Claim(s) 2-4 is/are objected to.

8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some    c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.
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### **DETAILED ACTION**

This is a response to the Applicants' filing on July 15<sup>th</sup>, 2003. In virtue of this filing, claims 1-10 are currently presented in the instant application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Inventorship***

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

#### ***Claim Objections/ Minor Informalities***

3. Claims 1, 3, 6, and 9-10 are objected to because of the following informalities:

Claim 1, line 8, "for" should be changed to --of--; --for-- should be inserted between "D-class" and "amplifying"; and "of" (between "amplifying" and "the") should be deleted;

Claim 3, line 13, "the" (first occurrence) should be changed to --a--;

Claim 6, line 2, "the" (third occurrence) should be changed to --a--;

Claim 9, line 1, "1" should be changed to --8--;

Claim 9, line 2, "the" (first occurrence) should be changed to --a--; and

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Claim 10, line 2, "the" (second occurrence) should be changed to --a--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 5-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 5, the equation cited in line 3 renders the claim indefinite since all the parameters, such as R1, R2, R3, C1, C2, etc., and related units are not provided. Clarification is required.

Claims 6-7 are also rejected under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, since they are dependent on claim 5.

With respect to claim 7, the recitation "for reducing the noise of the amplifier by a predetermined amount in accordance with a predetermined value" in lines 3-4 renders the claim indefinite since the two "predetermined amount" and "predetermined value" are not clearly distinguished. Clarification is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicants Admitted Prior Art (AAPA) (Fig. 1) in view of Sanyo Electric CO (JP-10-164385).

With respect to claim 1, Fig. 1 of AAPA shows an image distortion compensating apparatus which controls a convergence yoke comprising (1) a compensation value generator [12] for calculating a convergence compensation value for compensating a convergence distortion which occurs while an image signal is emitted onto a display apparatus, the compensation value generator outputting the convergence compensation value after compensating for a phase and a gain of the convergence yoke, (2) an amplifier [13] for amplifying the convergence compensation value and outputting an output signal, and (3) a convergence yoke [21] for controlling a path of electron beams corresponding to the image signal, based on the convergence compensation value as amplified at the amplifier. However, the amplifier [13] of Fig. 1 of the AAPA is not a D-amplifier as claimed.

Sanyo Electric CO (JP-10-164385) discloses, in Fig. 1, a D-class amplifier [18, 19, 20, 21, 22].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Fig. 1 of the AAPA by replacing the amplifier of Fig. 1 of the AAPA with a D-class amplifier for power consumption savings since such a configuration of the D-class amplifier for the stated purpose has been well known in the art as evidenced by the teachings of Sanyo Electric CO (see Fig. 1 in regard to noise reduction via filter [20]; see ADVANTAGE: line 1 in regard to power consumption savings).

With respect to claim 8, Fig. 1 of AAPA shows an image distortion compensating apparatus which controls a convergence yoke and a corresponding method comprising (1)

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calculating (via [12]) a convergence compensation value for compensating a convergence distortion which occurs while an image signal is emitted onto a display apparatus in consideration of a phase and a gain of the convergence yoke, (2) amplifying (via amplifier [13]) the convergence compensation value and outputting an output signal, and (3) forming a predetermined magnetic field by the amplifier [13] and controlling (via [21]) a path of electron beams corresponding to the image signal by the magnetic field as formed. However, the amplifier [13] of Fig. 1 of the AAPA is not a D-amplifier as claimed.

Sanyo Electric CO (JP-10-164385) discloses, in Fig. 1, a D-class amplifier [18, 19, 20, 21, 22].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus of Fig. 1 of the AAPA by replacing the amplifier of Fig. 1 of the AAPA with a D-class amplifier for power consumption savings since such a configuration of the D-class amplifier for the stated purpose has been well known in the art as evidenced by the teachings of Sanyo Electric CO (see ADVANTAGE: line 1 in regard to power consumption savings).

With respect to claim 9, the combination of AAPA (Fig. 1) and Sanyo Electric CO disclose a further step of removing a noise (via filter [20]; see Sanyo Electric CO.; Fig. 1) from an electric current forming the magnetic field.

With respect to claim 10, the combination of AAPA (Fig. 1) and Sanyo Electric CO disclose the step of D-class amplifying further comprises a step of low pass filtering (via low pass filter [20]; see Fig. 1 of Sanyo Electric CO.) the amplified convergence compensation value.

***Allowable Subject Matter***

8. Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. Applicants are noted that (1) claims 3 and 6 must be corrected to overcome the objections set forth in this Office Action in order to be allowed following the allowability of claim 2, and (2) claims 5 and 7 must be rewritten to overcome the rejection under 35 U.S.C. 112, 2<sup>nd</sup> paragraph set forth in this Office Action in order to be allowed following the allowability of claims 2-4.
10. The following is a statement of reasons for the indication of allowable subject matter:
- Prior art fails to disclose or fairly suggest:
- An image distortion compensating apparatus further comprising a feedback sensor provided between the convergence yoke and the compensation value generator for reducing a noise outputted from the convergence yoke through a differential amplification, in combination with the remaining claimed limitations as called for in claim 2.

***Citation of relevant prior art***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Inoue et al. (U.S. Patent No. 5,532,765) discloses an image correction apparatus.

Prior art Tsujihara et al. (U.S. Patent No. 5,414,330) discloses a CRT control apparatus.

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Prior art Ogino et al. (U.S. Patent No. 4,961,030) discloses a miss convergence compensation device.

Prior art Waehner (U.S. Patent No. 4,176,300) discloses a deflection waveform generator.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuy V. Tran  
Examiner  
Art Unit 2821



T.T.  
06/25/2004